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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,671	02/06/2004	Yasuhiro Kondo	P/1689-134	8571
2352	7590	01/12/2006	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			BLACKWELL RUDASIL, GWENDOLYN A	
			ART UNIT	PAPER NUMBER
			1775	
DATE MAILED: 01/12/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/773,671

Applicant(s)

KONDO, YASUHIRO

Examiner

Gwendolyn Blackwell

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.  
4a) Of the above claim(s) 7-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-6, drawn to an infrared ray filter, classified in class 428, subclass 432.
  - II. Claims 7-12, drawn to a method of making, classified in class 427, subclass 248.1.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions of Group II and Group I are related as process of making and product made.

The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made by a materially different process. Instead of forming the layers, layer by layer on the substrate, the layers can be formed separately on a release film in an inverted fashion, then laminated onto the substrate with subsequent removal of the release film./

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Douglas Miro on November 29, 2005 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-6. Affirmation of this election must be made by applicant in replying to this Office action. Claims 7-12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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5. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

*The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.*

8. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-6 are indefinite as the thickness of the layers are set forth in terms of a design wavelength. Applicant has not set forth in the claims what the design wavelength should represent. As the function of the film is dependent upon the thickness of the layers, which is dependent upon the design wavelength, it is important to know the design wavelength. Over what design wavelengths will Applicant's infrared ray filter work? Clarification is needed.

***Claim Rejections - 35 USC § 102/103***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

*(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over United States Patent no. 6,391,400, Russell et al

*Regarding claim 1*

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Russell et al disclose a visibly heat reflective thermal control coating wherein the coating is comprised of two or more alternating layers of high and low index refractive material, (column 1, lines 5-20). The coating can have 2-50 alternating layers of high and low index refractive materials, (column 19, lines 14-48). The thickness of the layers is determined using the quarterwave theory and the desired wavelength, (column 23, lines 36-51). Example 8 demonstrates that first layer can be a high refractive index layer such as titanium dioxide and the last layer can be silicon oxide, (columns 45-46, lines 50-25), meeting the limitations of claims 1 and 3.

In the alternative, while there are no specific examples demonstrating a layer structure between 16 and 32 layers, it would have been within obvious to one skilled in the art at the time of invention to optimize the number of layers in the multilayered coating to create a balance between the desired infrared reflectance and the strength and durability of the coating as well as the cost in order to maximize the desired optical properties, (column 19, lines 14-25).

*Regarding claim 2*

The limitation of claim 2 indicates that the "prescribed layer" is layer number six or seven. The prescribed layer is taken as arbitrary layer wherein the optical thickness goes from no more than  $\lambda/4$  to an optical thickness of no less than  $\lambda/4$ . As the layers are formed having a thickness based on the quarterwave theory, the prescribed layer is part of the layer structure, and the layers can all have a thickness of  $\lambda/4$ , it would stand to reason that layer 6 or 7 of the prior art meets that limitation.

*Regarding claims 4 and 5*

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Between the substrate and the first layer, an additional layer can be formed wherein the layer can be aluminum oxide, (column 20, lines 19-56), meeting the limitations of claims 4-5.

*Regarding claim 6*

When the structure recited in the reference is substantially identical to that of the claims, the claimed properties or function are presumed inherent. *MPEP 2112.01*. Because the prior art exemplifies the applicant's multilayered infrared reflective coating, the claimed physical properties are inherently present in the prior art. Absent an objective showing to the contrary, the addition of the claimed physical properties to the claim language fails to provide patentable distinction over the prior art of record.

13. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, as obvious over Japanese Patent Application Publication no. 2000-314808, "JP '808.

*Regarding claims 1 and 2*

JP '808 disclose an infrared ray cut filter comprised of two or more laminates of high and low index refractive materials having an optical thickness based on the quarterwave theory, (pages 2-3, section 0004). The first layer in the film is a high refractive index material and the last layer is a low refractive index. The design wavelength is  $\lambda$ , which is used to set the optical thickness of the film, (page 4, section 0010). Example 2 demonstrates the layer structure as set forth in claim 1 with regards to the layer thicknesses based on a prescribed layer, (page 5, section 0013). It would seem that the 7<sup>th</sup> and/or 10<sup>th</sup> layer is the prescribed layer, meeting the limitations of claims 1 and 2.

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In the alternative, from the teachings of JP '808 it would seem that the coating could have 2-37 or more layers. Applicant's coating requires 16-32 layers in the coating. Applicant's layer range is completely encompassed by the prior art. It would have been obvious to one skilled in the art to modify the 37 layer coating by reducing the number of layers as JP '808 specifically teaches if there are fewer layers in the coating, the refractive index of the thin films can be adjusted in order to achieve the same permeability property, (page 9, section 0033). It would also be obvious to shift the prescribed layer

*Regarding claims 3-6*

Titanium oxide is used as the high index refractive layer and silicon dioxide is used as the low index refractive layer, (page 9, section 0013), meeting the limitations of claim 3. Between the substrate and the first layer a layer of aluminum oxide can be placed, (page 8, section 0030), meeting the limitations of claims 4 and 5. The light permeability decreases as the light wavelength increases, (page 8, section 0029), meeting the limitations of claim 6.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn Blackwell whose telephone number is (571) 272-1533. The examiner can normally be reached on Monday - Thursday; 5:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gwendolyn Blackwell  
Examiner  
Art Unit 1775

  
**DEBORAH JONES**  
SUPERVISORY PATENT EXAMINER